

## DEFORMABLE MEMS MIRROR

### ABSTRACT OF THE DISCLOSURE

A MEMS device having a deformable mirror. In representative embodiments, the  
5 MEMS device includes (1) a deformable plate having a reflective surface and movably  
connected to a substrate and (2) a deformation actuator mounted on the plate such that,  
when the plate moves with respect to the substrate, the actuator moves together with the  
plate without any changes in the relative position of the plate and the actuator. In one  
embodiment, the actuator has (i) a first electrode, one end of which is attached to an edge  
10 of the plate and (ii) a second electrode attached to an interior portion of the plate. When  
a voltage differential is applied between the first and second electrodes, an unattached  
end of the first electrode moves with respect to the second electrode, thereby applying a  
deformation force to the plate. Advantageously, motion and deformation of the  
deformable plate in such MEMS device are decoupled.